

Chapter 1 / Chemicals

TEST YOURSELF

1. What is the difference between an atom and a molecule?
2. What is the chemical name for baking soda? And its formula?
3. Write the equation for carbonic acid splitting into water and carbon dioxide.
4. A solution of table salt in water is an example of an electrolyte. What ions are present in this solution?
5. What element is always present in proteins but not usually in fats or carbohydrates?
6. List three differences between glucose and glycogen.
7. Which will provide you with the most energy – one gram of sugar or one gram of butter?
8. Re-write this scientific name for an animal correctly;
trichosurus Vulpecula.
Can you find out what this animal is?
9. Rearrange these groups from the biggest to the smallest;
Cars / diesel cars / motor vehicles / my diesel Toyota / transportation
and;
class / species / phylum / genus / order / kingdom / family / breed
10. Is a rabbit a rodent?

TEST YOURSELF ANSWERS

1. An atom is the simplest building block of matter – elements are made of atoms. Molecules are made of atoms joined together.
2. Baking soda, NaHCO_3
3. $\text{H}_2\text{CO}_3 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
4. Na^+ and Cl^- (also H^+ and OH^-)
5. Nitrogen.
6. Glucose is a monosaccharide, glycogen is a polysaccharide (and a much bigger molecule); glucose is sweet to taste and dissolves in water, glycogen is not sweet and is insoluble; glucose is used for energy whereas glycogen stores energy.
7. Fats provide approximately 2.5 times more energy than carbohydrates – so the butter wins hands down!
8. *Trichosurus vulpecula* OR Trichosurus vulpecula
It's a possum.
9. Transportation / motor vehicles / cars / diesel cars / my diesel Toyota and
kingdom / phylum / class / order / family / genus / species / breed
10. No – it is in the order Lagomorpha, not Rodentia. It is a lagomorph!